

In air combat, "the merge" occurs when opposing aircraft meet and pass each other. Then they usually "mix it up." In a similar spirit, Air and Space Power Journal's "Merge" articles present contending ideas. Readers are free to join the intellectual battlespace. Please send comments to aspj@maxwell.af.mil.

Air Force Policy for Advanced Education

Production of Human Capital or Cheap Signals?

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In the first decade of the twenty-first century, the US Air Force experienced a significant policy debate regarding officer education. The question at hand concerned why officers attain graduate-level education or advanced academic degrees (AAD) and how those achievements should affect promotions. On the one hand, some officers, such as those serving as researchers, political affairs officers, or academic instructors, need education above and beyond their undergraduate training because the level at which they work is more specific than general. On the other hand, it is not completely clear why the vast majority of Air Force officers, such as those serving on aircrews, in personnel and finance units, and so forth, need more education than necessary to conduct their work.

This second group of officers, the generalists, represents the source of contention and debate. Moreover, this controversy led to conflicting policies from the most senior leadership, leaving the issue muddled and confused for today's junior and field-grade officers. This article discusses the main

points of each policy and interprets them through the lens of modern economic theory. Using the well-developed ideas of human capital and signaling, along with empirical evidence, it argues that advanced education has become not a means of increasing knowledge and ability so much as a proxy for officers' commitment to their careers. The article extends this line of inquiry to nonresident professional military education (PME) programs, in which it finds much similarity. Finally, it offers a different vision, modeled on a sister service's program, that would make the education experience more valuable for both our officer corps and the Air Force by expanding opportunities at civilian universities in exchange for long posteducational commitments.

Conflicting Visions

In 2005 Gen John P. Jumper, chief of staff of the Air Force, wrote a letter to all members of the service describing a significant change in promotion procedures and the Air Force's treatment of education in

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general.¹ Specifically, he directed the Air Force Personnel Center (AFPC) to mask officer education data on promotion boards through the rank of colonel, making it available only for brigadier general and above. By doing so, General Jumper intended to stop officers from pursuing AADs for the sole purpose of increasing their chances for promotion, also known as “square-filling” or “checking the box.” Although he acknowledged the value and importance of education to the Air Force and its officer corps, the general believed that the pursuit of AADs should be deliberate and focused.

An earlier letter of General Jumper's, written in 2002 regarding force development, foreshadowed his education policy.² In that letter, he echoed the criticism of the status quo regarding education opportunities: “I know that a lot of you feel there are many reasons to be discouraged or dissatisfied with our current system—limited PME in-residence slots, limited advanced degree opportunities, or worse, square-filling master's degree programs that do little to make you better at your job or get you closer to your goals. I have experienced some of these issues myself and I hear the same feedback from you. So let's fix it.”³

In 2006 the next chief of staff, Gen T. Michael Moseley, and the secretary of the Air Force, Michael W. Wynne, issued a letter to Airmen that reversed General Jumper's decision. General Moseley also lauded the importance of education in his letter, stating that the value for the Air Force lay in having “intellectual throw weight.” He announced that AFPC would unmask officer education data, starting with the promotion boards in 2008.⁴ Thus, because of a sweeping policy change followed by a rapid reversal, the Air Force held promotion boards between 2005 and 2007 that excluded any and all information about an officer's education.

In determining the correct position, we should consider what Air Force instructions (AFI) say regarding official policies on advanced education for officers. Unfortunately, at least two AFIs directly address this topic, each of which takes a slightly different tack

concerning the purpose and aim of graduate education for officers. Though not entirely inconsistent, each instruction's objectives are vague enough to encompass almost any viewpoint: General Jumper's, General Moseley's, or something in between.

AFI 36-2611, *Officer Professional Development*, notes that “AADs are important to officer professional development to the extent they enhance the officer's professional qualifications. A degree which is directly related to the primary utilization area is appropriate at any level since this degree adds to depth of experience. An advanced degree in management or more general studies tends to enhance job performance for officers reaching the field grade ranks where breadth development begins to take place.”⁵ AFI 36-2302, *Professional Development*, observes that “Graduate Education programs are designed to manage limited resources and support National, Military, and Air Force strategic objectives in an increasingly complex international environment with rapidly changing science and technology. Graduate education requirements are identified as specific positions for which an Advanced Academic Degree (AAD) is necessary to accomplish the job and meet the overall Air Force mission.”⁶

AFI 36-2611 presents a wide and liberal view towards graduate education for officers, informing us that it improves job performance and is important to the development of all officers. Accordingly, education that enhances the depth or breadth of knowledge remains vital to winning the current wars. This slant on graduate education aligns with General Moseley's position: “As we continue to fight this Global War on Terror, we will be conducting operations in both familiar and unfamiliar places, with both old and new friends. To succeed, our expeditionary Air Force will need all the cultural, political and technical skills available.”⁷ Although General Moseley does not explicitly cite AFI 36-2611, his argument for unmasking education data on promotion boards and his encouragement of AADs are in complete agreement with this instruction.

Yet, a close reading of AFI 36-2302 reveals that only some positions need advanced education in order to carry out our mission. Graduate education, according to this instruction, should provide a very specific skill set required for designated billets. However, it does not address what the vast majority of officers should seek educationally. By emphasizing the scarcity of resources for graduate education, the AFI implies that possession of an AAD by all Air Force officers is not “mission essential.” This educational philosophy seems to support General Jumper’s position of offering graduate education as a deliberate development step: “We must make sure Airmen get the training and education required for their specialty or area of expertise. If you need additional education or training—you will get it. . . . Education must be tailored to benefit Airmen in doing their jobs.”⁸

Given the differences in these instructions, we can see how the two chiefs of staff could have claimed to grasp the importance of postgraduate education as essential to mission accomplishment yet employed policies that mostly opposed each other. Each of their positions is perfectly justifiable in light of the AFIs on officer development.

The central question then becomes whether or not most officers engaged in voluntary off-duty education programs do so to augment their promotion opportunities or to improve their ability to serve the Air Force—or both. To help dissect and answer this question about the role of AADs in our promotion systems, the article draws upon current economic theory of labor and education—particularly the theories of human capital and of signaling, two distinct ideas postulated by economists Gary Becker and Michael Spence.

The Theory of Human Capital

The modern economic theory of human capital looks at workers in the labor force as a sum of acquired skills and knowledge.⁹ Some of our personal human capital is use-

ful in any setting, such as the ability to read, write, and do simple math. These abilities are designated *general human capital* because they can transfer to any work environment. Other dimensions of human capital are useful only in very narrow settings, such as the ability to operate a fighter aircraft in combat. We refer to these skills as *specific human capital*. We acquire specific and general human capital through both formal education and experience.

Applied to the Air Force, we could say, roughly speaking, that one acquires specific human capital through formal training courses and general human capital through education programs. For example, a Senior Airman crew chief who attends a technical training course on working on C-130s does not learn finance or even how to work on and launch F-16s. The human capital he has is very narrow and specific—fixing C-130s. However, many of the skills acquired in Airman Leadership School increase his general human capital. Advanced abilities in team leadership, written communication, and critical thinking would serve this Senior Airman in any Air Force specialty or in the civilian sector.

Higher levels of human capital typically show themselves in wage differentials. In a normal labor market, the more skilled and productive individuals receive more compensation than their peers. If human capital increases with training and education, then we expect income to do likewise. However, in the military our base pay depends upon rank and years of service, regardless of career field or skill level. Thus, we would expect to see differences in human capital among Airmen not in wages but in promotions. Those with the human capital deemed most valuable to the Air Force should be promoted above those with less.

The remainder of this article simplifies matters, discussing human capital as the composite of these two distinctions—general and specific. In reality most producers of human capital (training courses, education programs, on-the-job-training, etc.) reflect a mix of general and specific and do

not divide neatly into one or the other. However it is helpful to keep both concepts in mind when evaluating education programs available to military members. We want to ask ourselves if a particular education program boosts a student's general or specific human capital—or both.

Signaling

Let's assume that master's degrees as we currently obtain them do not increase human capital relevant to the Air Force's needs. Under certain conditions, using AADs as a mechanism for sorting and stratifying officers for promotion purposes could have considerable merit. An AAD may convey information about the level of human capital possessed by the officer who completed it. Even if no production of human capital took place, the process or act of completing an advanced degree may provide useful information and justify our practices—a concept known as *signaling*.¹⁰

In short, a signal offers an indirect means of communication when people wish to convey information about themselves but cannot do so directly. The Air Force promotion board wants to know candidates' intelligence, their amount of human capital, and their capability to perform the duties of the next rank. However, members of the board do not have information such as IQ, Air Force Officer Qualifying Test, Graduate Record Exam, or Scholastic Aptitude Test scores to help them understand the cognitive abilities and human capital of the officers in the pool.¹¹ In theory, completion of an expensive and selective master's program would send information about a candidate's level of human capital compared to that of his or her peers without a master's degree.

For example, a Harvard graduate's diploma serves as a very powerful labor market signal when he or she applies for a job. The hiring company knows well that Harvard screens prospective students heavily, requires astronomical College Board scores, rejects a high percentage of applicants, and

charges steep tuition.¹² With regard to signal efficacy, an undergraduate degree from Harvard is extremely effective because it conveys much information, costs a great deal of money, and is quite difficult to earn.

In the case of Air Force AADs, a *separating equilibrium* occurs only if high-ability officers obtain the signal (e.g., a master's degree), despite the cost or difficulty of the program, to give the promotion board a means of distinguishing them from their lower-ability peers. The latter officers will choose not to obtain the signal because they find the time-money investment prohibitive or the difficulty of the education program insurmountable.¹³

Conversely, a *pooling equilibrium* occurs when the signal is inordinately expensive and nobody obtains it—or if it is very cheap and everyone obtains it. In the former case, one could imagine earning a doctorate degree in five years as a signal of higher human capital, a costly signal that would deter nearly all officers. In the latter case, a master's degree acquired simply by paying a small fee offers a cheap signal of higher levels of human capital easily obtained by all officers.¹⁴ In either case, a promotion board could not discriminate between high- and low-ability officers, based on education, because everyone would do the same thing. The signal becomes useless because it conveys no information.

Again, even if no production of human capital occurred as Air Force officers toiled away to earn graduate-level diplomas in their off-duty time, demanding AADs would still have some usefulness. If one had to be highly intelligent, insightful, and more capable than one's peers to complete a master's degree at an on-base program or through distance learning, then the diploma would send a powerful signal of an officer's level of human capital and abilities. Such a situation creates a separating equilibrium that would help promotion boards identify officers with higher levels of human capital.

Critique of the Status Quo: Cheap Signals of Human Capital

Given the paradigms previously laid out, we should ask ourselves whether our AADs from off-base and distance-learning programs increase human capital relevant to the Air Force and whether they serve as effective signals of high levels of human capital for promotion boards. A careful examination of the writings of Generals Jumper and Moseley, a review of a recent government report on tuition assistance (TA) programs, and a close analysis of recent promotion statistics indicate that, for the most part, they do neither.

When General Moseley emphasized the importance of education and justified his decision to reverse the directive of his predecessor, he was highlighting the value of human capital acquired through the pursuit of advanced education. According to the general's letter, the Air Force should have access to an officer's education records during promotion boards because an individual who has completed advanced education has the knowledge needed for present and future wars. As officers move up in rank, their responsibilities demand even greater abilities in communication, leadership, critical thinking, and knowledge of Air Force organization and doctrine. From General Moseley's perspective, masking education data (both undergraduate and graduate) removed the promotion board's ability to identify officers with high levels of human capital and decreased their incentive to attain those levels.¹⁵

What did General Jumper see in an officer's education that led him to order the masking of data on promotion boards? In his letter of 2005 he wrote, "For years, Master's degrees had a significant impact on promotion potential. This must change—our focus should be on deliberate development and not 'square filling.'" ¹⁶ In effect, General Jumper implied that too many Air Force officers were pursuing advanced education to enhance their chances for

promotion, regardless of the value of the education program. He readily admits to doing so himself:

Just like many of you, I spent many hours in night school to earn a master's degree. Why? So I could get promoted. It's not that the time was wasted, but the course of study was not designed to maximize my own development, or to deliver the best return on that investment to the Air Force. And, it took me two years of time shared with my Air Force duties and away from my family. To top it all off, the Air Force viewed my MBA in the same light for promotion as if I had attained a Master's in Quantum Physics from MIT.¹⁷

General Moseley essentially conceded this point in his letter: "Over time, earning a post-graduate degree deteriorated into a method to increase the likelihood of promotion. People used their education benefits and precious free time to pursue degrees that may or may not have been relevant to their Air Force duties."¹⁸ To be clear, although Generals Jumper and Moseley differed in their response to AADs obtained through off-duty and TA programs, neither one questioned the value and importance of degrees obtained at the Air Force Institute of Technology or by means of full-time studies at traditional universities.¹⁹

A recent investigation into TA programs by the Government Accountability Office (GAO) criticized the Department of Defense's (DOD) lack of oversight of the quality of education received by service members through on-base education programs.²⁰ The study, which extensively examined base education centers, incorporated data from all four services.

DOD verifies whether a school is accredited; however, it does not gather some key information from accreditors when conducting its oversight activities, such as whether schools are in jeopardy of losing their accreditation. Accreditors can place schools on warning or probation status for issues such as providing inaccurate information to the public and poor institutional governance. Schools can experience various problems within the 3- to 10-year accreditation renewal period, and these prob-

lems can negatively affect students, including service members. Additionally, DOD does not require schools to have new programs and other changes approved by accrediting agencies in order to receive TA funds. Currently, students enrolled in unapproved programs or locations are ineligible to receive federal student aid from [the Department of Education], but can receive TA funds.²¹

In short, the DOD allows military members to use TA funds at institutions that have met the bare minimum of education standards and that may be experiencing other problems. The GAO report states that it did not even begin to address distance-learning programs that made up 71 percent of courses taken in 2009.²² The information contained in the report is not *prima facie* evidence that all on-base and distance-learning graduate programs offered to military members are devoid of any production of human capital, but it should at least give us pause regarding the quality of AAD programs available to officers. The value of an off-duty graduate program should not be ambiguous.

Turning to actual promotion statistics, we would expect certain results if AADs significantly enhanced an officer's human capital. We anticipate that, as a group, officers with AADs would be more productive than their non-AAD peers and therefore promoted at higher rates. This expectation should be a robust finding, regardless of the promotion board's ability to see education data, because the fruits of increased human capital should show up in performance reports and promotion recommendation forms. As a cohort, officers with graduate degrees should work more efficiently, solve tougher problems, and better organize the people and resources under their spans of control. Therefore, if AADs do in fact significantly increase human capital relevant to the Air Force, promotion results should be essentially the same, despite the availability of education data to a promotion board.

We can test this hypothesis by looking at promotion results from years when AFPC masked education data, 2005–7, and comparing them to results from previous and

subsequent years. The most compelling evidence that this hypothesis is false comes from statistics published for O-5 (lieutenant colonel) promotion boards (table 1). One can see that in 2005–7, in-the-promotion-zone (IPZ) promotion rates for officers without an AAD shot up dramatically. For example, promotion rates to O-5 without a master's degree went from an average of 15.7 percent in the 10 O-5 promotion boards prior to 2005 to an average of 48.6 percent in the years 2005–7. Although more majors approached their promotion boards without having completed an AAD (from a 7.6 percent average in 1996–2004 to an average of 16.2 percent in 2005–7), this fact cannot explain the more than tripling of promotion percentages for non-AAD officers.

One could challenge this assertion by claiming that the Air Force must have been promoting more officers to lieutenant colonel, but such was not the case. From 2002 through 2009, promotion rates to lieutenant colonel remained steady at 73–74 percent. If an AAD bolstered human capital, then promotion rates should not have changed because personnel with graduate degrees, armed with more skills and more productive capability, should have outperformed individuals without AADs at a similar rate as before—but they did not. Many officers holding AADs became indistinguishable from those without such degrees.

Looking at promotions to O-6 (colonel) (table 2), we see more evidence, albeit less powerful statistically. In the years 2000–2004, no officers without an AAD were selected for promotion to the rank of colonel. To be fair, very few officers who reached the promotion board for colonel had not obtained their AADs. However from 2005 through 2007, a few without AADs slipped past, selected by the board for promotion. After the enactment of General Moseley's policy, officer promotions regressed to the trend, and since 2007 no officer without an AAD has become a colonel. But those officers promoted to colonel without an AAD must have had excellent performance records

Table 1. Results of USAF lieutenant colonel promotion board, calendar years 1989–2009

Board	Overall			By Advanced Degree					
	Considered	Selected	Percent	Yes			No		
				Considered	Selected	Percent	Considered	Selected	Percent
1989	2,495	1,586	63.57	2,130	1,453	68.22	365	133	36.44
1990	2,495	1,601	64.17	2,125	1,476	69.46	370	125	33.78
1991A	1,765	1,161	65.78	1,513	1,056	69.80	252	105	41.67
1991B	1,988	1,332	67.00	1,725	1,220	70.73	263	112	42.59
1992	1,887	1,196	63.38	1,634	1,098	67.20	253	98	38.74
1993	2,246	1,413	62.91	1,930	1,308	67.77	316	105	33.23
1994	2,930	1,843	62.90	2,599	1,738	66.87	331	105	31.72
1996	2,200	1,386	63.00	2,066	1,353	65.49	134	33	24.63
1997	1,845	1,163	63.04	1,717	1,139	66.34	128	24	18.75
1998	1,774	1,110	62.57	1,650	1,086	65.82	124	24	19.36
1999A	1,817	1,179	64.89	1,711	1,167	68.21	106	12	11.32
1999B	1,690	1,112	65.80	1,594	1,095	68.70	96	17	17.71
2000	1,718	1,118	65.08	1,616	1,102	68.19	102	16	15.69
2001	1,989	1,304	65.56	1,859	1,292	69.50	130	12	9.23
2002	1,765	1,265	71.67	1,622	1,253	77.25	143	12	8.39
2003	1,502	1,085	72.24	1,333	1,057	79.30	169	28	16.57
2004	1,676	1,223	72.97	1,456	1,189	81.66	220	34	15.46
2005	1,454	1,073	73.80	1,180	947	80.25	274	126	45.99
2006A	1,426	1,063	74.54	1,196	950	79.43	230	113	49.13
2006B	1,470	1,099	74.76	1,230	984	80.00	240	115	47.92
2007	1,198	895	74.71	1,032	810	78.49	166	85	51.21
2008	1,388	1,026	73.92	1,260	1,004	79.68	128	22	17.19
2009	1,412	1,045	74.01	1,267	1,014	80.03	145	31	21.38

Source: "Active Duty Officer Promotions Line of the Air Force (LAF) Historical," Air Force Personnel Statistics, Air Force Personnel Center, <http://w11.afpc.randolph.af.mil/demographics/ReportSearch.asp>.

Table 2. Results of USAF colonel promotion board, calendar years 1989–2009

Board	Overall			By Advanced Degree					
	Considered	Selected	Percent	Yes			No		
				Considered	Selected	Percent	Considered	Selected	Percent
1989	1,204	531	44.10	1,081	496	45.88	123	35	28.46
1990	1,228	540	43.97	1,139	518	45.48	89	22	24.72
1991	1,134	510	44.97	1,053	483	45.87	81	27	33.33
1992	1,279	535	41.83	1,203	513	42.64	76	22	28.95
1993	1,102	458	41.56	1,050	444	42.29	52	14	26.92
1994	1,308	548	41.90	1,227	530	43.20	81	18	22.22
1995	1,198	502	41.90	1,139	491	43.11	59	11	18.64
1996	834	349	41.85	787	345	43.84	47	4	8.51
1997	921	384	41.69	885	380	42.94	36	4	11.11
1998	798	330	41.35	761	327	42.97	37	3	8.11
1999	927	384	41.42	890	382	42.92	37	2	5.41
2000	1,188	530	44.61	1,145	530	46.29	43	0	0.00
2001	927	432	46.60	908	432	47.58	19	0	0.00
2002	791	363	45.89	780	363	46.54	11	0	0.00
2003	795	355	44.65	783	355	45.34	12	0	0.00
2004	808	372	46.04	798	372	46.62	10	0	0.00
2005	736	331	44.97	730	330	45.21	6	1	16.67
2006	806	365	45.29	788	363	46.07	18	2	11.11
2007	1,010	459	45.45	981	457	46.59	29	2	6.90
2008	958	434	45.30	946	434	45.88	12	0	0.00
2009A	846	372	43.97	833	372	44.66	13	0	0.00
2009B	982	447	45.52	970	447	46.08	12	0	0.00

Source: "Active Duty Officer Promotions Line of the Air Force (LAF) Historical," Air Force Personnel Statistics, Air Force Personnel Center, <http://w11.afpc.randolph.af.mil/demographics/ReportSearch.asp>.

since historically only about 43.85 percent of IPZ lieutenant colonels advance in rank.

Because of the change in promotion results from the years when AFPC masked education data until its unmasking, we know that boards used AADs as a discriminator for selection. In contrast we expect that information such as eye color would have no effect on outcomes, whether available to the board or not. Assuming that each of the officer cohorts considered for promotion resembled those preceding and following, we can infer that during the masking of education data, the selection boards promoted some people that would not have been selected in previous years because they lacked an AAD. In 2005–7, those promoted to major, lieutenant colonel, and colonel must have had better performance records than those not selected because the boards had no other information available. Before and after this period, we cannot say that every officer selected for promotion had a better record of performance than those not selected. If that statement were false, then promotion rates between AAD and non-AAD officers should have remained unchanged, regardless of the availability of education data.

Even before one read the GAO report or analyzed promotion data, a perusal of the list of off-duty education programs marketed to military personnel, such as those offered by American Military University, Embry-Riddle Aeronautical University, University of Phoenix, or Troy University, would have revealed that the opportunities available to most Air Force officers are not of high quality. If one were to cross-reference on-base or distance-learning programs with *US News and World Report's* rankings of graduate schools or any other reputable ranking system, one would find no mention of the above-mentioned institutions. The fact that these systems of rankings do not even attempt to evaluate most of the graduate programs in which military members enroll speaks volumes about their reputation and quality. This article maintains that the path to a master's degree from institu-

tions such as these is not a trial of intellect but of time management.

In sum, the statements of both General Jumper and General Moseley, the GAO report, an analysis of promotion data, and the author's personal experience indicate that we should be highly skeptical of the proposition that AADs from off-duty and distance-learning programs significantly advance the levels of human capital in the Air Force. In the aggregate, no evidence suggests that this is true. Still, if AADs served as a strong signal of already existing human capital and created a separating equilibrium, then the Air Force would have an excellent system for identifying officers with higher levels of human capital. However, no such evidence presents itself.

Between 2002 and 2009, the Air Force conducted 10 separate O-4 promotion boards (table 3), producing a mean promotion rate for IPZ captains of 92.7 percent with little variation. During the seven promotion boards that had access to education data, almost exactly 50 percent of IPZ captains had an AAD, with a difference of roughly 5.9 percent between the average promotion rates of AAD and non-AAD captains (95.4 percent and 89.5 percent, respectively). On the one hand, it seems plausible that a separating equilibrium existed since only half of the captains obtained an AAD. On the other hand, it is difficult to confirm this when nearly everyone advanced to major and very little difference in promotion rates existed between the two groups. An AAD may have acted as an excellent signal for higher levels of human capital, but because the Air Force promotes nearly every captain to major, it is not a useful signal at this stage of career progression.

Returning to the O-5 promotion boards, we observe a large change in IPZ promotion rates between AAD and non-AAD officers (see table 1). During the five promotion boards held between 2002 and 2009 when education data was available, 79.6 percent of AAD officers were promoted compared to only 15.8 percent of non-AAD officers. The disparity between promotion rates suggests

Table 3. Results of USAF major promotion board, calendar years 1989–2009

Board	Overall			By Advanced Degree					
	Considered	Selected	Percent	Yes			No		
				Considered	Selected	Percent	Considered	Selected	Percent
1989	4,584	3,846	83.90	2,945	2,644	89.78	1,639	1,202	73.34
1991	4,137	3,083	74.52	2,892	2,382	82.37	1,245	701	56.31
1992	2,915	2,191	75.16	1,964	1,562	79.53	951	629	66.14
1993	2,741	2,003	73.08	1,838	1,458	79.33	903	545	60.35
1994	2,891	2,098	72.57	1,973	1,535	77.80	918	563	61.33
1995	2,564	1,874	73.09	1,824	1,434	78.62	740	440	59.46
1996	2,859	2,088	73.03	1,950	1,502	77.03	909	586	64.47
1997	2,862	2,323	81.17	1,947	1,667	85.62	915	656	71.69
1998	2,497	2,062	82.58	1,518	1,327	87.42	979	735	75.08
1999	1,953	1,689	86.48	1,214	1,106	91.10	739	583	78.89
2000A	2,195	1,943	88.52	1,316	1,223	92.93	879	720	81.91
2000B	1,841	1,620	88.00	1,027	949	92.41	814	671	82.43
2001	1,909	1,685	88.27	1,150	1,053	91.57	759	632	83.27
2002A	2,048	1,814	88.57	1,247	1,132	90.78	801	682	85.14
2002B	1,681	1,557	92.62	894	858	95.97	787	699	88.82
2003A	1,973	1,824	92.45	981	940	95.82	992	884	89.11
2003B	2,287	2,132	93.22	1,027	983	95.72	1,260	1,149	91.19
2004	2,360	2,197	93.09	929	883	95.05	1,431	1,314	91.82
2005	2,057	1,901	92.42	828	783	94.57	1,229	1,118	90.97
2006	2,363	2,204	93.27	821	777	94.64	1,542	1,427	92.54
2007	2,348	2,211	94.17	887	852	96.05	1,461	1,359	93.02
2008	2,520	2,366	93.93	1,235	1,191	96.44	1,285	1,175	91.51
2009	3,147	2,950	93.74	1,674	1,640	97.97	1,473	1,310	88.93

Source: "Active Duty Officer Promotions Line of the Air Force (LAF) Historical," Air Force Personnel Statistics, Air Force Personnel Center, <http://w11.afpc.randolph.af.mil/demographics/ReportSearch.asp>.

that an AAD did indeed serve as a useful signal of relatively higher human capital levels. However, one wonders why AAD officers constituted 89.6 percent of the IPZ majors under consideration for promotion during these five promotion boards. Given the supposed difficulty of obtaining a good signal, how could nearly nine out of 10 majors have done so? Unfortunately, an examination of the O-6 data will not help because nearly 99 percent of IPZ lieutenant colonels competing for promotion hold an AAD (see table 2).

At least two explanations account for these findings. First, perhaps the Air Force has many officers with high levels of human capital and few with low levels, thus heavily skewing the distribution of talent and human capital. Additionally, promotion boards would evidently have little ability to distinguish between high- and low-ability officers during their review of performance reports and other information. If this were all true, then an officer would do well to

earn a difficult, time-consuming AAD if he or she had high levels of human capital. The graduate degree may represent the only way such officers can separate themselves from the few low-ability officers unable to obtain an AAD.

Tuition Assistance AADs and Nonresident PME: Signals of Commitment

A second explanation, more believable and consistent with the evidence, maintains that the AAD does not signal high human capital but something else—commitment. Completion of an on-base or distance-learning AAD program conveys nothing other than an officer's willingness to sacrifice a considerable amount of personal time towards that end. Typically, monetary cost is not a factor because the officer shifts that expense to the Air Force, which heavily

subsidizes AADs through the TA program. However, one cannot shift the substantial time expended and labor invested to anyone else. Thus, commitment to the institution rather than human capital creates a separating equilibrium.

For example, we know that scalpers can charge multiple times the face value of a ticket to important concerts. One might ask why bands and venues do not simply set their prices higher or hold an auction to increase profits. If one believes that bands are interested not only in their profits but also in the experience of performing in front of highly dedicated fans, then not selling tickets to the highest bidders makes sense. By forcing fans to wait in long queues or make

ter's degree from Trident University does exactly that, and it becomes an effective signal in that regard. Instead of the AAD's signaling higher levels of human capital, it signals loyalty to the Air Force.

In trying to decide who should receive a valuable "definitely promote" (DP) on a Promotion Recommendation Form, a special assignment, or selection to a school, the senior officer or selection board would like to know something about candidates' dedication to the service, whether they plan to serve at least 20 years, and whether they wish to become senior leaders. Given the limited supply of DPs, developmental education slots, or positions for promotion, selection boards and leadership may reason-

A unit commander does not need to ask subordinates about their career intentions because he or she knows that officers who want to be promoted will complete their off-duty AADs and that those less committed to promotion will not.

repeated calls to an authorized vendor, they can ensure that the highly committed, not simply the wealthiest, ones attend. In this case, an overnight campout at the local venue to buy a ticket for a concert is a signal of commitment.²³

With that thought in mind, this article argues that a promotion board does not need education data to determine promotions because nearly all of the information regarding a person's performance, intellectual strength, and prospects for success at higher levels of responsibility resides in training reports, evaluations, decorations, and personnel records. However, that data does not help the board determine levels of commitment to the Air Force. But a mas-

ably want to adopt commitment into their decision calculus.

Simply asking subordinates about their commitment to their careers and to the Air Force would be useless. Replying truthfully about one's career plan is not always the best strategy since any answer other than a desire to be the chief of staff might hurt the subordinate's stratification or leadership support for special programs and jobs—hence the efficiency of nontraditional AADs as signals. A unit commander does not need to ask subordinates about their career intentions because he or she knows that officers who want to be promoted will complete their off-duty AADs and that those less committed to promotion will not.

Similarly, our Air Force leadership now uses nonresident PME courses as signal mechanisms for commitment. Like most off-duty AADs, our nonresident PME courses are not difficult to complete, but they do require a commitment of time. Thus, they are cheap signals for knowledge and human capital; that is, they convey no information about an officer's intellect relative to that of his or her peers. However, they are excellent signals for commitment because they demand many hours of reading, writing, and taking exams. An ambivalent or uncommitted officer would have little reason to finish a nonresident PME course.

Originally, such programs targeted officers unable to attend in residence to obtain knowledge necessary for the next level of leadership and remain competitive with their peers for promotion.²⁴ Never intended as a prerequisite for attendance in a full-time PME program, nonresident PME has become exactly that. How many times a day do our captains think to themselves, "Why do I have to do Squadron Officer School by correspondence just so I can go and do it again in-residence?" Similarly, our majors ask themselves or their commanders, "Why do I have to do Air Command and Staff College by correspondence just so I can do a resident intermediate developmental education program?" The author has never heard a justification for this practice other than the idea that it helps with promotion boards and selection for resident PME programs.

To check this hypothesis, one need only determine how many officers reach their promotion boards having first completed a nonresident and then a resident developmental education program. If the former were not a prerequisite of the latter, then we would expect that nearly all officers who complete their appropriate level of PME would do so by one method or the other—but not both. We can look at the records of officers and see how many complete nonresident Squadron Officer School before going to Maxwell AFB for the resident course, just as we could check the same information with Air Command and Staff College

and Air War College. If this hypothesis is correct, then we will find that most officers who complete resident PME programs did so after finishing the nonresident version.

In the broadest possible terms, our off-duty AAD programs neither increase human capital in a way relevant to the Air Force nor offer efficient signals of high human capital. Instead they represent extremely efficient signals of officer commitment and institutional loyalty. On the face of things, this system is not necessarily so terrible. Highly committed officers have a way to signal their desires to senior officers and promotion boards by completing an off-duty AAD and nonresident PME courses. Through the TA program, the Air Force finances a generous amount of the cost of AADs, so the monetary burden does not fall on the officer. However the question is not "Is our system good or bad?" but "What is the opportunity cost?" If another education policy allows us to increase human capital as well as signal both high levels of human capital and commitment, then we should explore it.

A Better Way to Educate Our Officers

There exists an alternative vision to a world where Air Force officers spend too much of their time earning advanced degrees of dubious value or halfheartedly studying nonresident PME material for courses that many of them will repeat as full-time students. This vision restores education to its rightful position—a human-capital-producing venture that creates a good signal of ability and commitment. To pursue this concept, we should study its implementation by one of our sister services—the Army.

Because of historically low retention rates among junior officers, the Army not only failed to fill positions that require senior captains and junior majors but also lost the ability to keep its most talented officers.²⁵ In 2005 Army ROTC and West Point began the Officer Career Satisfaction Program (OCSP), designed to retain officers.²⁶ It

offered cadets a fully funded graduate school option that vested after completion of their initial active duty service commitment (ADSC)—as well as an extra three years of service as the price for the option—demonstration of good service, and attainment of the rank of captain. When the graduate school option vests at seven or eight years of service, the officer can leave the Army, remain but decline the opportunity to go to graduate school, or attend a civilian graduate school program of his or her choice for two years to obtain a master's degree at the Army's expense (including salary, benefits, and tuition). In return for the last option, the officer would "pay back" with an ADSC of six years, typically taking him or her to 15 or 16 years of active duty service. At that point, with so little time left to vest a valuable retirement annuity, the Army expects that officers who exercise their graduate school option will most likely put in at least 20 years of service.

This system offers a number of advantages. First it very clearly identifies the commitment levels of young and midlevel officers. Those willing to contract for the graduate school option are obviously serious about their career in the Army and are worth the investment of additional resources because they have no intention of leaving anytime soon. Second, junior and midlevel officers do not have to allocate an inordinate amount of time away from their work and personal lives. They can focus on the mission, their Soldiers, and their families. Contracted officers know that at a certain time, the Army will free them from their day-to-day duties, guaranteeing them the funding and time to study for a degree. Finally, the knowledge and abilities acquired during the two years of study will allow the Army to reap the increased human capital for its own benefit as well as the officer's. Because that individual must serve six years after finishing graduate school, the Army guarantees itself more human capital in positions of higher authority. Furthermore, officers exercising the graduate school option are not limited to on-base

or distance-learning programs; instead, they can apply for and complete degrees at world-class universities like Stanford, Johns Hopkins, or the University of Michigan.

Full-time graduate students also enjoy the benefit of peer effect. That is, officers enrolled in civilian programs are exposed to ideas and people far removed from their normal sphere. Officers in an off-duty education program study either by correspondence, without any peer interaction at all, or at a facility on or near the base with other military members and DOD civilians. This situation does not, ipso facto, mean that the class will lack diverse thought and opinion; however, if nearly all of the students bring a relatively similar background and set of experiences to the classroom, the probability of cross-pollinating ideas is low.

In contrast, at a civilian institution, student-officers most likely will find themselves in the minority, affording them an opportunity not only to learn from civilian peers who have experience in industry, business, government, and academia, but also to share their military experiences with people who may not know anyone who has worn the uniform. One cannot understate the importance of exposing future civilian leaders to the culture of our defense institutions for which they will develop and implement policy. Officers participating in full-time graduate study are not simply students but ambassadors for a culture that has become increasingly alien to the rest of America, particularly the well-educated elite.²⁷

Upon implementation of OCSP, the Army discovered among its cadets and officers a nearly insatiable demand for incentives such as the graduate school option. Cadets willingly committed to a tour above and beyond their initial ADSC in exchange for the service's commitment to them. Obviously the Air Force is not the Army, and our unique circumstances would make imprudent the notion of simply mimicking what the Army has done. Our leadership might look skeptically at OCSP, declaring the impossibility of allowing Air Force officers a two-year sabbatical for graduate studies. Al-

though this type of program would require much personnel flexibility and career juggling, the Air Force should not dismiss the idea outright unless it is only paying lip service to the importance of education. When we consider that US Army Soldiers have assumed the lion's share of sacrifice and pain during our wars in Iraq and Afghanistan as well as the global war on terrorism, this argument does not hold water.²⁸ In the midst of massive shortages of junior officers and multiple wars, if the Army can commit to its officers' education and extract a similar commitment from them, then so can the Air Force.

Conclusion

For unknown reasons, the Air Force lost its way regarding the value and importance of graduate-level education for its officers. Instead of AADs representing something of value that increased skills and knowledge and signaled higher levels of human capital, they and the process of earning them devolved into a test of loyalty or a sign of commitment to an Air Force career; the same is true of nonresident PME courses.

The Air Force, of course, has every right to know the commitment levels of its officers before determining promotions, assigning in-residence PME slots, and filling important developmental positions. However, in allowing our advanced education and non-resident PME process to become a race to the bottom, the ability to discern commitment levels has come with a huge opportunity cost to the Air Force and a time cost to its officers. General Jumper may have enacted an extreme policy by masking all education data on promotion boards, but his instincts were correct. Thankfully, we do not need to return to measures like these to break the cycle. Adopting programs like the Army's OCSP would allow the Air Force to invest seriously in human capital and enjoy a much larger return on its education dollars. Concurrently, Air Force officers could send a strong signal of commitment and ability to promotion boards, thereby ending the practice of cheap signaling and "box checking." We could then truly call our officer corps well educated and have at our disposal real intellectual throw weight to fight the wars to come. ✪

Hurlburt Field, Florida

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